STN 5/13/03

```
Set     Items   Description
S1       1785   PCIB OR CHLOROPHENOXYISOBUTYRIC OR TIBA OR TRIIODOBENZOIC -
            OR ANTI(W)AUXIN
S2      13116   SOMATIC(W)EMBRYO?
S3         62   S1 AND S2
S4         41   RD (unique items)
S5    4275585   PY=2000:2003
S6         33   S4 NOT S5
S7          8   EMBRYOGENIC(W)CELL(W)MASS
S8          0   S6 AND S7
S9     284985   MATUR?
S10         8   S6 AND S9
? t s10/9/1-5, 6

 10/9/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
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11793479   BIOSIS NO.: 199900039588
Somatic embryogenesis and plant regeneration in callus culture
  of tef, Eragrostis tef (Zucc.) Trotter.
AUTHOR: Kebebew A; Gaj M D(a); Maluszynski M
AUTHOR ADDRESS: (a)Dep. Genet., Silesian Univ., Jagiellonska 28, 40-032
  Katowice**Poland
JOURNAL: Plant Cell Reports  18 (1-2):p154-158 Nov., 1998
ISSN: 0721-7714
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The study was carried out to establish in vitro culture
  conditions for plant regeneration of tef, Eragrostis tef (Zucc.) Trotter.
  Mature seeds of two Ethiopian varieties, DZ-01-354 and DZ-01-196,
  were used to initiate callus cultures on Murashige and Skoog (MS) medium
  with different auxins. Four- and 8-week-old calli induced on a medium
  with 2.0 mg/l 2,4-dichlorophenoxyacetic acid (2,4-D) were subcultured
  onto various media to induce somatic embryogenesis. Compact,
  nodulated, embryogenic callus was observed after transfer onto MS-callus
  proliferating (CP) medium. Embryogenic tissue appeared on soft and
  amorphous callus and developed into somatic embryos during a
  subsequent subculture to MS embryo-promoting (EP) media. Various growth
  regulator combinations were tested in CP and EP media to obtain a high
  efficiency of somatic embryo formation. The highest frequency
  of calli forming somatic embryos (56.1-68.3%) was observed
  when CP media with 2.0 or 4.0 mg/l 2,3,5-triiodobenzoic acid were
  employed and then cultures were transferred to EP media with 0.5 mg/l
  2,4-D and 0.5 mg/l kinetin followed by 0.5 mg/l indole-3-acetic acid and
  0.5 mg/l N6-benzyladenine. Plant development from somatic
  embryos was obtained on MS medium supplemented with 1.0 mg/l
  gibberellic acid. On average, 71.2% of calli displaying somatic
  embryos converted into plants. Regenerated plants were successfully
  transferred to soil. Neither chlorophyll-deficient plants nor
  morphological variants were found among regenerants. All regenerated
  plants were fertile.

REGISTRY NUMBERS: 87-51-4: IAA; 86-87-3Q: NAPHTHALENEACETIC ACID;
    26445-01-2Q: NAPHTHALENEACETIC ACID; 94-75-7: 2 4-D
DESCRIPTORS:
  MAJOR CONCEPTS: Agronomy (Agriculture); Methods and Techniques
  BIOSYSTEMATIC NAMES: Gramineae--Monocotyledones, Angiospermae,
    Spermatophyta, Plantae
  ORGANISMS: Eragrostis tef {tef} (Gramineae)--grain crop
```

Dicots

10/9/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

06068204 BIOSIS NO.: 000085031353
EMBRYOGENIC CALLUS INDUCTION AND PLANT REGENERATION FROM CULTURED HORDEUM-VULGARE **MATURE** EMBRYOS
AUTHOR: RENGEL Z
AUTHOR ADDRESS: DEP. PLANT NUTRITION, FAC. AGRIC. SCI., UNIV. ZAGREB, SIMUNSKA 25, 41 000 ZAGREB, YUGOSLAVIA.
JOURNAL: PLANT PHYSIOL BIOCHEM (PARIS) 25 (1). 1987. 43-48. 1987
FULL JOURNAL NAME: Plant Physiology and Biochemistry (Paris)
CODEN: PPBIE
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A non-embryogenic callus was induced on Hordeum vulgare **mature** embryos cultured on modified Murashige and Skoog's (MS) medium supplemented with different concentrations of 2,4-dichlorophenoxyacetic acid. After non-embryogenic calli were subcultured on the media of the same compositions as in the primary culture, an embryogenic callus tissue was formed. **Somatic embryoids** appeared on the surface of the embryogenic calli. The structure of some of them resembled zygotic cereal embryos. Green plants were developed from **somatic embryoids** on the regeneration medium (modified MS completed with 3 .mu.M 2,3,5-**triiodobenzoic** acid). Following establishment of vigorous root systems, plants were transferred into soil and grown to the **maturity**. The influence of the genotype on the tissue culture of cereals is discussed.

DESCRIPTORS: 2 4-D 2 3 5 **TRIIODOBENZOIC** ACID TISSUE CULTURE
CONCEPT CODES:
11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
32500 Tissue Culture, Apparatus, Methods and Media
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51512 Plant Physiology, Biochemistry and Biophysics-Reproduction
52504 Agronomy-Grain Crops
25508 Developmental Biology-Embryology-Morphogenesis, General
51000 Morphology, Anatomy and Embryology of Plants
BIOSYSTEMATIC CODES:
25305 Gramineae
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Plants
Vascular Plants
Spermatophytes
Angiosperms
Monocots
?

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Angiosperms; Monocots; Plants; Spermatophytes; Vascular Plants
CHEMICALS & BIOCHEMICALS: IAA--plant growth regulator; NAA {naphthaleneacetic acid}--plant growth regulator; 2,4-D--plant growth regulator
METHODS & EQUIPMENT: callus culture--Murashige and Skoog medium, culture method
CONCEPT CODES:
52504 Agronomy-Grain Crops
32500 Tissue Culture, Apparatus, Methods and Media
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods
BIOSYSTEMATIC CODES:
25305 Gramineae

10/9/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11138862 BIOSIS NO.: 199799760007
Direct **somatic embryogenesis** and plant regeneration from **mature** sugarbeet (Beta vulgaris L.) zygotic cotyledons.
AUTHOR: Kulshreshtha S; Coutts R H A(a)
AUTHOR ADDRESS: (a)Dep. Biol., Imperial Coll. Sci., Technol. Med., Prince Consort Road, London SW7 2BB**UK
JOURNAL: Plant Growth Regulation 22 (2):p87-92 1997
ISSN: 0167-6903
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: An in vitro protocol has been developed for direct **somatic embryogenesis** of zygotic cotyledons from **mature** sugarbeet (Beta vulgaris L.) embryos. Explants were sequentially cultured on modified Murashige and Skoog (MS) medium supplemented with different combinations of 2,4-D, NAA, BAP and **TIBA**. **Somatic embryogenesis** was induced within 4 weeks of culture on embryogenesis induction medium which contained MS medium supplemented with BAP and **TIBA**. Proliferation of **somatic embryos** was observed on embryo proliferation medium, which contained MS medium supplemented with BAP and NAA within 4 weeks of culture. Plants were regenerated on hormone free 1/2 strength MS medium containing a low sucrose concentration. With some sugarbeet lines, high frequencies of plant regeneration in excess of 90% were observed. The incorporation of **TIBA** in the media was essential for successful regeneration.

REGISTRY NUMBERS: 88-82-4: 2 3 5-**TRIIODOBENZOIC** ACID; 86-87-3Q: NAPHTHALENEACETIC ACID; 26445-01-2Q: NAPHTHALENEACETIC ACID; 1214-39-7: BENZYLAMINOPURINE; 94-75-7: 2 4-D
DESCRIPTORS:
MAJOR CONCEPTS: Chemical Coordination and Homeostasis; Development; Methods and Techniques
BIOSYSTEMATIC NAMES: Chenopodiaceae--Dicotyledones, Angiospermae, Spermatophyta, Plantae
ORGANISMS: sugarbeet (Chenopodiaceae); Beta vulgaris (Chenopodiaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): angiosperms; dicots; plants; spermatophytes; vascular plants
CHEMICALS & BIOCHEMICALS: 2,3,5-**TRIIODOBENZOIC** ACID; NAPHTHALENEACETIC ACID; BENZYLAMINOPURINE; 2,4-D
MISCELLANEOUS TERMS: Research Article; BAP; BENZYLAMINOPURINE; CHEMICAL

COORDINATION; COTYLEDONS; DEVELOPMENT; METHODOLOGY; MURASHIGE AND SKOOG MEDIUM; NAA; NAPHTHALENEACETIC ACID; PLANT GROWTH REGULATOR; PLANT REGENERATION; PROPAGATION METHOD; **SOMATIC EMBRYOGENESIS**; **TIBA**; TISSUE CULTURE; ZYGOTIC; 2,3,5-**TRIIODOBENZOIC** ACID; 2,4-D

CONCEPT CODES:
32500 Tissue Culture, Apparatus, Methods and Media
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51514 Plant Physiology, Biochemistry and Biophysics-Growth Substances
51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods

BIOSYSTEMATIC CODES:
25795 Chenopodiaceae

10/9/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10157493 BIOSIS NO.: 199698612411
Somatic embryogenesis from integument (perisperm) cultures of coffee.
AUTHOR: Sreenath H L(a); Shanta H M; Babu K Harinath; Naidu M M
AUTHOR ADDRESS: (a)Tissue Cult. Div., Coffee Board, Manasagangothri, Mysore 570 006, Karnataka**India
JOURNAL: Plant Cell Reports 14 (10):p670-673 1995
ISSN: 0721-7714
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: **Somatic embryogenesis** was induced in integument (perisperm) cultures of C times R hybrid cultivar of coffee, after a culture period of 15 months, using a sequence of 3 modifications of MS medium. Vigorously growing soft, white, watery crystalline calli were obtained on MS + **TIBA** (1 mg/l) + L-cysteine HCI (50 mg/l) + PVP (100 mg/l). After 43 d, the calli were subcultured to MS + IAA (0.5 + mg/l) + 2,4-D (o.05 mg/l) + Kn (8.6 mg/l) and maintained for the next 9 months without any transfer. On this medium, the callus proliferation was initially vigorous which slowed down after 5-6 months, and then the calli turned light brown and somewhat compact. Later, when the calli were transferred to MS + thiamine HCI (10 wg/l) + pyridoxine HCI (3 mg/l) + nicotinic acid (2 mg/l) + 2,4-D (0.2 mg/l) + 2ip (2.5 mg/l) and cultured for 2 months, they turned darker, more compact and the proliferation almost stopped. These calli were subcultured onto fresh medium of the same composition. After another 2 months of culture cream-coloured, highly friable, embryogenic calli appeared, which in turn produced a few clearly identifiable SEs in another 1 month. Further proliferation and **maturation** of SEs was achieved by culturing the embryogenic calli on MS + ABA (1 mg/l) for 3 months. The SEs were germinated into 2 cm tall plantlets after 2-3 subcultures, each of 2 months duration on 1/2-MS + Kn (0.1 mg/l).

REGISTRY NUMBERS: 87-51-4: IAA
DESCRIPTORS:
MAJOR CONCEPTS: Cell Biology; Chemical Coordination and Homeostasis; Development; Methods and Techniques
BIOSYSTEMATIC NAMES: Rubiaceae--Dicotyledones, Angiospermae, Spermatophyta, Plantae
ORGANISMS: Rubiaceae (Rubiaceae)
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): angiosperms; dicots; plants;

spermatophytes; vascular plants
CHEMICALS & BIOCHEMICALS: IAA
MISCELLANEOUS TERMS: CALLUS PROLIFERATION; GERMINATION; IAA
CONCEPT CODES:
02504 Cytology and Cytochemistry-Plant
32500 Tissue Culture, Apparatus, Methods and Media
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51514 Plant Physiology, Biochemistry and Biophysics-Growth Substances
51524 Plant Physiology, Biochemistry and Biophysics-Apparatus and Methods
10060 Biochemical Studies-General
25508 Developmental Biology-Embryology-Morphogenesis, General
BIOSYSTEMATIC CODES:
26680 Rubiaceae

10/9/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08002012 BIOSIS NO.: 000093057685
FACTORS AFFECTING MORPHOGENESIS FROM IMMATURE COTYLEDONS OF PHASEOLUS-COCCINEUS L
AUTHOR: GENGA A; ALLAVENA A
AUTHOR ADDRESS: ISTITUTO SPERIMENTALE PER L'ORTICOLTURA, VIA PAULLESE 28, 20075 MONTANASO L., ITALY.
JOURNAL: PLANT CELL TISSUE ORGAN CULT 27 (2). 1991. 189-196. 1991
FULL JOURNAL NAME: Plant Cell Tissue and Organ Culture
CODEN: PTCED
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Direct **somatic embryogenesis** as well as **somatic embryogenesis** and organogenesis mediated by small glossy calluses were obtained from immature cotyledon explants of bean (P. coccineus) cv Streamline 770 on a modified half-strength MS medium (Murashige & Skoog 1962) containing various concentrations of (2-isopentenyl)adenine and 2-naphthoxyacetic acid. Substitution of sucrose with glucose gave, in the range of concentrations tested, the strongest enhancement of the morphogenic process. Further improvement regarding the number of morphogenic cotyledons, the number of regenerations per cotyledon and the quality of the embryos was observed when 2,3,5-**triiodobenzoic** acid or abscisic acid were added to the medium. After cycles of micropropagation on MS medium plus 4.4 .mu.M 6-benzyladine and rooting in the absence of growth factors, plantlets were adapted to ex vitro conditions and grown to **maturity**.

DESCRIPTORS: 2 ISOPENTENYLADENINE 2 NAPHTHOXYACETIC ACID 2 3 5 **TRIIODOBENZOIC** ACID ABSCISIC ACID 6 BENZYLADENINE **SOMATIC EMBRYOGENESIS** ORGANOGENESIS REGENERATION
CONCEPT CODES:
13220 Nutrition-Carbohydrates (1972-)
51000 Morphology, Anatomy and Embryology of Plants
51504 Plant Physiology, Biochemistry and Biophysics-Nutrition
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
51512 Plant Physiology, Biochemistry and Biophysics-Reproduction
51514 Plant Physiology, Biochemistry and Biophysics-Growth Substances
10060 Biochemical Studies-General
10066 Biochemical Studies-Lipids
10068 Biochemical Studies-Carbohydrates

BIOSYSTEMATIC CODES:
26260 Leguminosae
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Plants
Vascular Plants
Spermatophytes
Angiosperms
Dicots

10/9/5 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

06259126 BIOSIS NO.: 000086093309
MICROAMPUTATION OF **SOMATIC EMBRYOS** OF THE DOMESTIC CARROT REVEALS APICAL CONTROL OF AXIS ELONGATION AND ROOT REGENERATION
AUTHOR: SCHIAVONE F M
AUTHOR ADDRESS: PLANT DEV. LAB., DEP. BOTANY, UNIV. MARYLAND, COLLEGE PARK, MD. 20742, USA.
JOURNAL: DEVELOPMENT (CAMB) 103 (4). 1988. 657-664. 1988
FULL JOURNAL NAME: DEVELOPMENT (Cambridge)
CODEN: DEVPE
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Somatic heart- and torpedo-stage embryos of the domesticated carrot, Daucus carota L., were severed at their midlengths to produce two halves termed apical and basal pieces. These pieces may be grafted or kept separate. Grafted embryos developed normally, with the exception that they tended to **mature** earlier than uncut control embryos. If kept separate, the apices grew at rates similar to grafted apices, while the basal ends, behaving as if they had been released from an inhibition of growth, rapidly elongated and **matured** (e.g. produced root hairs and a root cap) 3-4 days earlier than uncut controls. Grafted embryos treated with the transport inhibitor **TIBA** (2,3,5-**triiodobenzoic** acid) had basal sections that behaved as if the sections had been kept separate. Additionally, resupplying IAA (indole-3-acetic acid) via a novel wick-bridge forced isolated basal pieces to behave as if the embryo apex were present. This apparent inhibition of root growth by the apex appears to be controlled by either the polar transport of auxin, and/or the accumulation of auxin at the root end. These experiments suggest that polar auxn transport has a greater influence on root, rather than on apex, development in these embryos.

DESCRIPTORS: DAUCUS-CAROTA GROWTH RATE POLAR AUXIN TRANSPORT
CONCEPT CODES:
02506 Cytology and Cytochemistry-Animal
11107 Anatomy and Histology, General and Comparative-Regeneration and Transplantation (1971-)
51000 Morphology, Anatomy and Embryology of Plants
51510 Plant Physiology, Biochemistry and Biophysics-Growth, Differentiation
53008 Horticulture-Vegetables
BIOSYSTEMATIC CODES:
26915 Umbelliferae
BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):
Plants
Vascular Plants
Spermatophytes
Angiosperms

STN 5/14/03

d ibib ab 16 1-4

L6 ANSWER 1 OF 4 CABA COPYRIGHT 2003 CABI DUPLICATE 1
ACCESSION NUMBER: 2002:194381 CABA
DOCUMENT NUMBER: 20023147080
TITLE: Effect of anti-auxins on maturation of embryogenic tissue cultures of Nordmanns fir (Abies nordmanniana)
AUTHOR: Find, J.; Grace, L.; Krogstrup, P.
CORPORATE SOURCE: Cell & Tissue Culture Laboratory, Botanic Garden, University of Copenhagen, O. Farimagsgade 2 B, 1353 Copenhagen K, Denmark.
SOURCE: Physiologia Plantarum, (2002) Vol. 116, No. 2, pp. 231-237. 25 ref.
Publisher: Blackwell Publishing. Oxford
ISSN: 0031-9317
PUB. COUNTRY: United Kingdom
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The present study was conducted to improve the transition from proliferation to maturation in embryogenic cultures of Nordmanns fir (Abies nordmanniana). For that reason, chemicals reported to affect endogenous levels or activity of auxin were included in the growth media during maturation. The auxin antagonist **PCIB** reduced proliferation and promoted the development of numerous high-quality mature embryos in the tested cell lines. **PCIB** could not substitute for exogenously supplied ABA and the positive effect was only found when **PCIB** and ABA were used in combination. The effect of **PCIB** was dependent on the concentration and the application period. The auxin transport inhibitor TIBA also reduced proliferation, but had no positive effect on maturation. The auxin synergist phloroglucinol had the opposite effect of **PCIB**; proliferation was increased and no maturation was initiated. A lowered concentration of boron had no effect on proliferation but had some positive effect on maturation. The optimum protocol for **PCIB** application was strongly genotype dependent, and a general scheme that covered the tested cell lines could not be found. Overexposure to **PCIB** during maturation caused abnormal development of the mature embryos, which was revealed by a reduced number of cotyledons. These results suggest that endogenously produced auxin may be one reason for low or failing maturation of embryogenic cultures of Nordmanns fir, but also imply that auxin may play a critical role for proper development of cotyledons during the later stages of embryo maturation.

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:315089 CAPLUS
DOCUMENT NUMBER: 135:134731
TITLE: Triiodobenzoic acid, an auxin polar transport inhibitor, suppresses **somatic embryo** formation and postembryonic shoot/root development in Eleutherococcus senticosus
AUTHOR(S): Choi, Y. E.; Katsumi, M.; Sano, H.
CORPORATE SOURCE: Research and Education Center for Genetic Information, Nara Institute of Science and Technology, Nara, Ikoma, 630-0101, Japan
SOURCE: Plant Science (Shannon, Ireland) (2001), 160(6), 1183-1190
CODEN: PLSCE4; ISSN: 0168-9452
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effect of auxin polar transport inhibitor on **somatic embryo** development and postembryonic growth in Siberian ginseng

(Eleutherococcus senticosus) was examd. In the presence of 2,3,5-triiodobenzoic acid (TIBA), an auxin polar transport inhibitor, embryo formation from embryogenic cells was suppressed, while cell division was not affected. When globular embryos at different stages were transferred onto medium contg. TIBA, development of axial and bilateral polarity was suppressed in a stage specific manner. In abnormal embryos induced by TIBA, further development of shoot and root apical meristems and vascular differentiation was also suppressed. Thus, abnormal development of embryos induced by inhibition of auxin polar transport resulted in plantlets without shoots and roots.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 4 CABA COPYRIGHT 2003 CABI DUPLICATE 2

ACCESSION NUMBER: 97:419 CABA
DOCUMENT NUMBER: 960311870
TITLE: Morphoregulatory role of thidiazuron: evidence of the involvement of endogenous auxin in thidiazuron-induced **somatic embryogenesis** of geranium (Pelargonium x hortorum Bailey)
AUTHOR: Hutchinson, M. J.; Murch, S. J.; Saxena, P. K.
CORPORATE SOURCE: Department of Horticultural Science, University of Guelph, Ontario N1G 2W1, Canada.
SOURCE: Journal of Plant Physiology, (1996) Vol. 149, No. 5, pp. 573-579. 30 ref.
ISSN: 0176-1617
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Thidiazuron-induced **somatic embryogenesis** in hypocotyl cultures of geranium (Pelargonium x hortorum cv. Scarlet Orbit Improved) consists of an induction phase on 10 or 20 micro mol litre-1 thidiazuron (TDZ) followed by an expression phase on a basal medium lacking growth regulators. The induction and development of **somatic embryos** were found to be closely related to levels of endogenous ad exogenous auxin. Inclusion of the auxin-action inhibitor, 2-p-(chlorophenoxy)-2-isobutyric acid (**PCIB**), and the auxin-transport inhibitor, TIBA, in a TDZ-induction medium decreased embryogenic response of the cultures by different mechanisms. The decrease of the embryogenic response in the presence of **PCIB** was accompanied by a corresponding decrease in endogenous levels of auxins, cytokinins, and ABA. These changes in the profiles of endogenous plant growth regulators were not evident when TIBA was used. High concentrations of exogenous IAA in the expression medium suppressed the development of **somatic embryos**. Although the precise mode of action of TDZ is unknown, it is suggested that TDZ modulates endogenous auxin metabolism during **somatic embryo** development in geranium hypocotyl cultures.

L6 ANSWER 4 OF 4 CABA COPYRIGHT 2003 CABI DUPLICATE 3

ACCESSION NUMBER: 90:65379 CABA
DOCUMENT NUMBER: 900734731
TITLE: Inhibition of **somatic embryogenesis** in response to 2,3,5-triiodobenzoic acid and 2,4-dichlorophenoxyacetic acid in Ipomoea batatas (L.) Lam. cultured in vitro
AUTHOR: Chee, R. P.; Cantliffe, D. J.
CORPORATE SOURCE: Department of Vegetable Crops, University of Florida Institute of Food and Agricultural Sciences, Gainesville, FL 32611, USA.
SOURCE: Journal of Plant Physiology, (1989) Vol. 135, No. 4, pp. 398-403. 17 ref.

ISSN: 0176-1617
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In studies of the role of endogenous IAA transport in embryo development, embryogenic sweet potato callus was treated with 1-5 micro M solutions of 2,4-D, 2,3,5-triiodobenzoic acid (TIBA), 7-aza-indole (AZI) or p-chlorophenoxyisobutyric acid (**PCIB**). AZI and **PCIB** had no effect on morphogenesis. 5 micro M TIBA or 2,4-D inhibited embryo formation and promoted embryogenic callus growth. Embryo development was restricted to increasingly earlier stages, i.e. from the torpedo stage toward the pro-embryo stage, as TIBA concn was gradually increased from 0 to 6 micro M, or as 2,4-D was gradually increased from 0 to 5 micro M. TIBA specifically inhibited polar IAA transport, suggesting that embryo development could coincide with endogenous IAA transport and that, inhibition of embryogenesis from embryogenic calli by exogenously supplied auxins could be a consequence of the disruption by exogenous auxins of endogenous IAA efflux from embryogenic loci.

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(FILE 'HOME' ENTERED AT 19:52:32 ON 14 MAY 2003)

FILE 'COMPENDEX' ENTERED AT 19:55:56 ON 14 MAY 2003
SET PLURALS ON PERM
SET ABBR ON PERM
L1 599 S CONIFER

INDEX 'AGRICOLA, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHNO, CABA, CAPLUS, CBNB, CIN, CONFSCI, CROPB, CROPU, ESBIOBASE, FEDRIP, FOMAD, FOREGE, FROSTI, FSTA, GENBANK, IFIPAT, INVESTEXT, LIFESCI, NAPRALERT, NTIS, PASCAL, PHIC, PHIN, PROMT, SCISEARCH, ...' ENTERED AT 20:05:00 ON 14 MAY 2003
SEA SOMATIC(W)EMBRYO?

2610	FILE AGRICOLA
662	FILE BIOBUSINESS
141	FILE BIOCOMMERCE
4677	FILE BIOSIS
1250	FILE BIOTECHNO
5678	FILE CABA
2954	FILE CAPLUS
1	FILE CBNB
15	FILE CIN
211	FILE CONFSCI
66	FILE CROPB
249	FILE CROPU
1619	FILE ESBIOBASE
105	FILE FEDRIP
27	FILE FROSTI
61	FILE FSTA
22786	FILE GENBANK
131	FILE IFIPAT
7	FILE INVESTEXT
899	FILE LIFESCI
34	FILE NAPRALERT
30	FILE NTIS
3104	FILE PASCAL
6	FILE PHIN
50	FILE PROMT
4413	FILE SCISEARCH
1632	FILE USPATFULL
36	FILE USPAT2

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                1    FILE ANABSTR
                8    FILE CANCERLIT
              123    FILE CEABA-VTB
                1    FILE DDFU
                1    FILE DRUGU
              206    FILE EMBASE
                3    FILE IPA
              297    FILE MEDLINE
               29    FILE PIRA
                9    FILE REGISTRY
              172    FILE TOXCENTER
                4    FILE ULIDAT
              147    FILE DGENE
               59    FILE DPCI
              129    FILE EUROPATFULL
              218    FILE INPADOC
                1    FILE JAPIO
              319    FILE PAPERCHEM2
                5    FILE PATDPAFULL
               40    FILE PATOSEP
               66    FILE PATOSWO
              714    FILE PCTFULL
                2    FILE RAPRA
              182    FILE WPIDS
              182    FILE WPINDEX
L2               QUE SOMATIC(W) EMBRYO?
                 ---------

     FILE 'CABA, PASCAL, BIOSIS, CAPLUS, AGRICOLA' ENTERED AT 20:17:38 ON 14
     MAY 2003
L3         19023 S L2
L4           195 S PCIB
L5            10 S L3 AND L4
L6             4 DUP REM L5 (6 DUPLICATES REMOVED)

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